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DISCUSSION

Dr Christopher J. Kwolek (*Newton, Mass*). I would like to congratulate Drs Sachs and Schermerhorn on bringing us another interesting paper utilizing large administrative databases, such as the National Inpatient Sample, to gain a better understanding of what is occurring nationally in the open and endovascular management of type B thoracic aortic dissection. I would also like to thank the authors for providing me with a copy of their manuscript in a timely fashion.

Dr Sachs and colleagues have shown that use of thoracic endovascular aortic repair (TEVAR) leads to a decreased in-hospital mortality of 13% compared with an open mortality of 20% for emergent repair of type B dissection, and a decreased mortality of 4.8% vs 12.8% for elective open repair. This occurred despite the fact that the TEVAR procedures were being performed on older patients with greater comorbidities.

The authors have accurately pointed out the limitations of using administrative databases, including the inability to drill down on specific details about individual patients, including indications for surgery, such as visceral malperfusion or aneurysmal dilatation, and the details about the operative or endovascular repair. In addition, they have pointed out the coding inaccuracies in these databases with respect to determining comorbidities, outcomes, and even the specific types of procedures being performed. Nevertheless, these results agree with the data presented by the European Collaborators on Stent-Graft Techniques for Aortic Aneurysm Repair (EUROSTAR) collaborators and several small single-center series. Our practice at the Massachusetts General Hospital also utilizes TEVAR as the first-line therapy for the management of acute complicated type B aortic dissection in conjunction with endovascular fenestration and stenting of the visceral and iliac vessels as necessary.

I have several comments/questions for the authors:

1. Since the majority of patients with uncomplicated Type B dissection are initially treated with medical management, is it possible to compare the outcomes of these patients using the same databases?
2. Management of chronic type B dissections is often performed months or years after the initial dissection and often for aneurysmal degeneration. Yet, your analysis excluded patients with a diagnosis of both dissection and thoracic aneurysm, thus you may be missing some of these chronic patients. Furthermore, in an attempt to exclude patients with type A dissection, you excluded any patients undergoing open repair with cardioplegia or cardiac assist. Yet, this will miss the patients undergoing open repair for chronic dissection using atriofemoral bypass to minimize the risk of paraplegia and visceral ischemia.
3. You state that any admissions that had both an open and a TEVAR code were considered a failure of TEVAR that was converted to open. While the numbers are small, this may also represent combined procedures where an open and an endovascular hybrid procedure are being performed together and may begin to occur more frequently in the future.
4. Since the majority of patients with uncomplicated type B dissection are initially treated with medical management, is it possible to compare the outcomes of these patients using the same databases?

Dr Teviah Sachs. Thank you, Dr Kwolek, those are all very valid points you bring up. For your first question: Although it is possible to look at these patients, it was not the focus of our study. However, if one were to look at those patients, we expect it would be difficult to exclude type A dissections in this database, as our methodology excludes type A dissections based on surgical procedure codes. Therefore, we would expect the mortality to be over-estimated as most type A dissections who are not operated upon, die.

As to your second question: Our purpose was to analyze the national outcomes for acute type B dissections and to that end we did exclude those patients you mentioned, which were more likely chronic dissections. As for those patients using atriofemoral bypass, we don't expect to have missed those patients. There are separate codes for cardiopulmonary bypass, which are distinct from cardioplegia and circulatory arrest, as would be used in atriofemoral bypass procedures.

Your third question, regarding hybrid or staged procedures: You rightly point out that these could have been combined procedures. However, there were relatively few patients (<50), and rather than exclude these patients, we chose to include them as "intention to treat." Since they could have been included in either group, and would likely bias that group's mortality, we chose to bias against TEVAR. As a matter of fact, when isolated, their outcomes were actually worse than either cohort: open or endovascular.